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Beyond the Filter: Social Media Use and Youth Mental Health in a Developing Economy

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ABSTRACT

Objective: This study investigates the impact of social media use on youth mental health in Pakistan, focusing on the relationship between excessive engagement with visually driven platforms and mental health.

Research Gap: While prior studies have examined the link between social media use and mental health, most are concentrated in high-income countries. There is a lack of context-specific evidence from developing economies, such as Pakistan, where sociocultural factors may uniquely shape digital behaviors and mental health outcomes.

Design/Methodology/Approach: Using primary survey data from 400 respondents in Pakistan, the study employs binary logit and OLS regression models to analyze the relationship between social media use and mental health indicators.

The Main Findings The results show that excessive use of visually driven platforms such as TikTok and Instagram is significantly associated with higher depressive symptoms, lower self-esteem, and shorter sleep duration.

Theoretical / Practical Implications of the Findings: The findings underscore the need for policy-driven interventions, such as digital literacy programs, regulated screen time, and digital mental health support, to promote healthier and more mindful social media engagement among youth in Pakistan.

Originality/Value: This study contributes novel, context-specific insights from a developing country perspective, highlighting how sociocultural dynamics influence the psychological effects of social media. It adds to the limited empirical literature on digital well-being in South Asia and offers practical recommendations for intervention.

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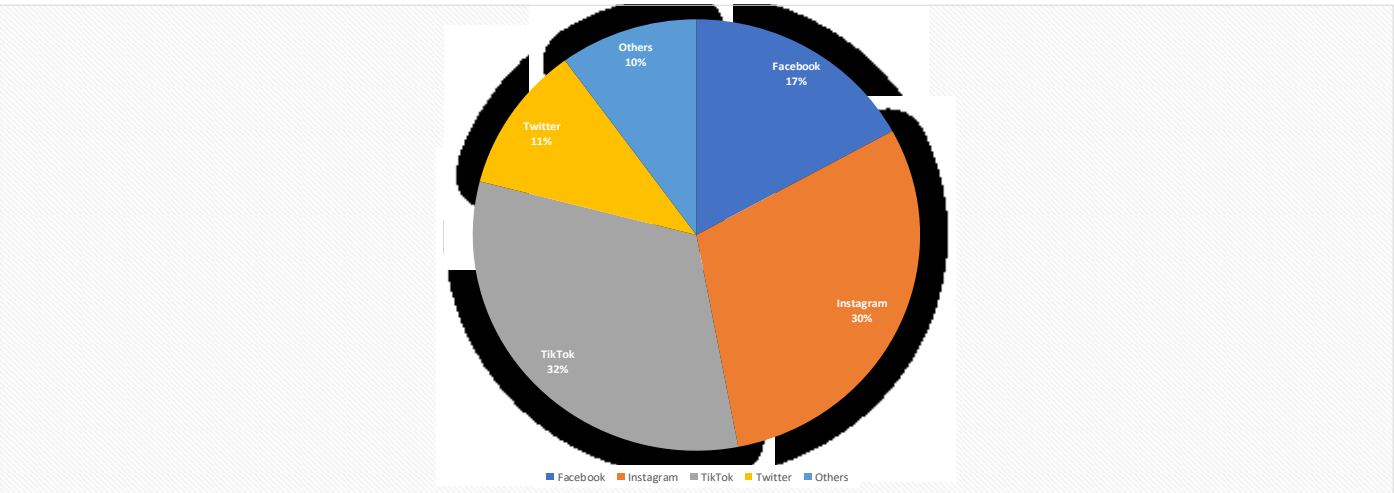
1. Introduction

In the digital age, social media has become an integral part of everyday life, particularly among young adults. Social media networking sites have transformed the way communication and information dissemination occur (Khalaf et al., 2023). These sites have various merits, including connectivity and freedom of self-expression; however, on the other hand, excessive use of social media apps can impact mental health. The prior literature reveals that there is a positive interconnection between the unregulated use of social media networks and the incidence of anxiety, depression, sleep disorders, low self-esteem, and higher levels of stress among young adults (Andlib, 2025). In recent years, due to increased internet accessibility, social media use has multiplied in Pakistan. According to an estimate, 71.7 million people actively use social media apps. A sizable proportion of these users are young adults. Considering the

previously mentioned facts and figures, it is necessary to conduct a study to explore the psychological impact of using social media platforms on emotional and mental well-being. There are approximately 5 billion active social media users worldwide, with the number increasing annually (Statista, 2024). In South Asia, approximately 961.81 million people use social media. The statistics indicate that 53.6 percent of users are male, while 46.4 percent are female. These demographic statistics vary on various platforms. For example, Tok-tok has 57% female users, and Facebook has 56.6% male users (Global Digital Insights).

Along with the previously mentioned merits, the excessive use of social media in many developing economies like Pakistan poses significant challenges, for instance, misinformation, cyberbullying, and digital addiction. Additionally, gender and social norms also shape digital experiences. It describes how adults interact with social media, ultimately impacting their mental well-being (Gowen et al., 2012). Comprehending these interconnections is necessary to inform policymakers to take further initiative to form healthier digital habits. Social media platforms offer users many advantages, including emotional support, connectivity, networking opportunities, and knowledge sharing. However, the addictive pattern of social media use poses various threats to mental health and well-being; for example, excessive use of social media leads to unnecessary comparisons, stress, anxiety, sleep disorders, and depressive symptoms. This pattern is particularly observed on TikTok and Instagram, and young adults are disproportionately affected by these negative impacts (Pugno, 2025). Figure 1 presents the most frequently used social media apps among young adults in Pakistan, and Figure 2 elaborates on the purpose of social media use among young respondents. We infer from the figure that Instagram and TikTok are the two most frequently used social media apps among young adults. Furthermore, most young respondents use social media for entertainment and to build connections.

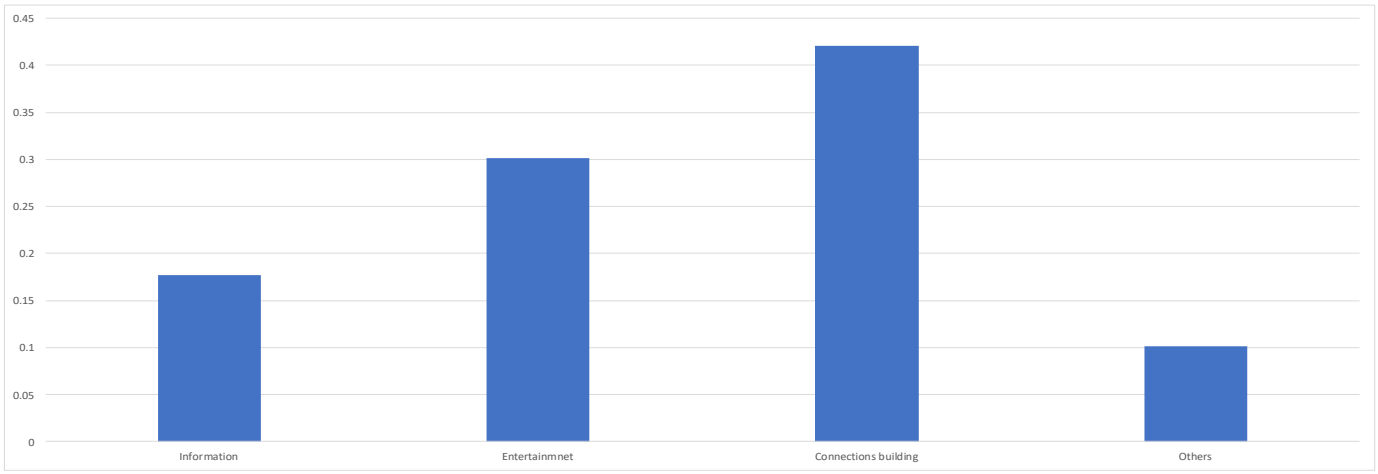
Figure 1: Most Frequently Used Social Media Apps among Young Adults



Source: Authors' Estimation

Based on the previously mentioned scenario, this study aims to investigate the impact of social media platform use on the mental health of young adults in a developing nation. The research will also explore the influence of demographic, regional, and provincial factors of social media users on various mental health symptoms, including depression, anxiety, sleep duration, and happiness with appearance. This research contributes significantly to policy discussions and academic literature by offering a thorough analysis of the effects of the use of social networking sites on mental health among young individuals in developing nations such as Pakistan. The prior literature has identified the psychological impacts of social media on the framework of Western economies (Braghieri et al., 2022; Jaspal & Breakwell, 2022). However, we could not find any notable studies in this regard for developing economies and South Asia. The present based on the previously mentioned scenario, this study aims to investigate the impact of using social networking sites on the mental health of young adults in a developing nation.

Figure 2: Purpose of Social Media App Use Among Young Adults



Source: Authors' Estimation

The study will also explore the influence of demographic, regional, and provincial factors of social media users on various mental health symptoms, including depression, anxiety, sleep duration, and happiness with appearance. This research makes a significant contribution to policy discussions and academic literature by providing a thorough analysis of the effects of using social networking sites on mental health in Pakistan, a developing economy. A comprehensive body of literature has been identified regarding the psychological impacts of social media within the framework of Western economies (Braghieri et al., 2022; Jaspal & Breakwell, 2022). However, we could not find any notable studies in this regard for developing economies and South Asia. The present study contributes to the existing body of scholarly work on the unregulated use of social media and its impact on mental health in a developing economy. The present research provides valuable information to policy practitioners, healthcare professionals, and educators. Our research highlights the need for mental health interference, digital skills development initiatives, and regulatory infrastructure to corroborate regulated social media use. Given the country's young population and rapid technological advancements, these interventions can be pivotal in promoting better digital behaviors and protecting the mental health of young adults.

The present research further contributes to the existing body of knowledge by incorporating more relevant data and socioeconomic factors that influence technological usage trends in Pakistan. The findings highlight the disparities in social media influence based on gender, socioeconomic status, and the contrast between urban and rural areas. These aspects have not received adequate attention in previous studies. The results provide a basis for additional interdisciplinary investigations into behavioral nudges, mental health, and sociocultural factors in developing countries.

The study is framed as follows: After setting the pitch, the second section provides a general overview of social media use and its impact on the mental health of young people across various economies. The remaining sections present the data and methodology applied in the present study, results, and policy directions.

2. Empirical Literature

The addictive pattern of social media has encouraged a discussion on how it affects mental health as studies indicate both its benefits, such as community support, and drawbacks, such as depression and anxiety. Considering its widespread use, it is mandatory to understand how digital participation affects psychological well-being. The methodologies, results, and limits of empirical research carried out over numerous populations are assessed in this section. Discussing these ideas aims to provide a comprehensive understanding of the complex interplay between mental health and social media use.

The present study's theoretical underpinning is taken from well-established theories and models that

demonstrate the interplay between mental well-being and the addictive pattern of social media use. In the previous literature, various theories explain the adverse influence of the addictive patterns of social media use on mental health, including the social comparison theory (Festinger, 1954), the ecological system theory (Bronfenbrenner, 1979), and the cognitive-behavioral model of the internet addiction (Davis, 2001).

Strickland (2014) emphasized the potential for social benefits and the threats of excessive use of social media by establishing connotations between social media use and various mental health issues, i.e., depression, anxiety, and low self-esteem. Along the same lines, Lin et al. (2016) highlighted a notable interplay between the unregulated use of social media and evidence of depressive symptoms among young adults, attributing this connection to unnecessary comparison, online harassment, and sleep disorders due to excessive screen time. Even so, the research capacity to establish causation was limited by the reliance on self-reported information and cross-sectional methodologies, which do not permit longitudinal studies. In another interesting study, Firth et al. (2017) highlighted that smartphone-based mental health interventions, especially those that involve cognitive behavioral therapy, have a smaller to moderate positive influence on decreasing depressive symptoms. This study is consistent with the results of Vannucci et al. (2017), who reported a substantial correlation between anxiety and persistent social media use among young adults. The research correlated this connotation to social comparison and fear of missing out. However, both studies emphasize the significance of controlled experiments and adjusted intervention techniques, as they highlight methodological limitations, such as self-reporting biases and variability in intervention effectiveness.

The use of social media for assessing anxiety and depression has been examined using innovative methodologies, exemplified by Reece and Danforth (2017), who employed Instagram images to discern predicted indicators of depression through machine learning techniques. The results indicate that individuals with depression tend to upload photographs with lower brightness and saturation; however, the study's reliance on publicly accessible data limits the generalizability of the findings. Twenge and Campbell (2018) investigated the relationship between screen time and emotional well-being in young adults, finding that unregulated digital involvement was associated with increased sadness and decreased emotional stability. Nonetheless, the study has utilized cross-sectional data and highlighted the need for longitudinal research to understand the directional effects. In another study, Kelly et al. (2018) utilized data from the UK Millennium Cohort Study to investigate the mental health challenges faced by teenagers. The study has incorporated the gender dimension to explore the connotation between social media and mental health outcomes. According to the empirical findings, young girls are more likely to suffer from the adverse effects of social media, i.e., sleeping disorders, online bullying, and low self-esteem. O'Reilly et al. (2018) also extended this point of view, describing how young people identify the pros and cons of unregulated social media use and tend to develop coping mechanisms to mitigate the adverse influences of social media. The study demonstrated the necessity of including young adults' opinions in discussions about social media and mental health-related interventions.

Berryman et al. (2018) disproved conventional wisdom by showing that anxiety, despair, or loneliness had no significant relationship with social media usage. This result suggests that engagement methods could be more crucial than screen time. Gao et al. (2020) investigated contextual elements during the recent pandemic in China. They found that those with high social media exposure displayed a high incidence of depressive symptoms. The study underlines the possibility of social media causing anxiety during a health crisis and the need for policies to minimize detrimental consequences of social media use under economic and health distress. Through focus group discussions and in-depth interviews, O'Reilly (2020) investigated the interconnection between adolescent mental health and the unregulated use of social media in Leicester and London, the UK. The research yielded mixed results, highlighting both the potential benefits and harms of social media. However, the empirical findings highlight that impact differs in context and usage pattern. Promoting a balanced and evidence-based approach to regulating adolescent social media use is mandatory. This perspective was substantiated by Coyne et al. (2020), who conducted a longitudinal study demonstrating that social media usage has no instantaneous impact on emotional well-being. These results highlight the complex nature of social media's influence, showing that content type, personal

characteristics, and behavioral nudges are more significant than previously thought.

Based on a sample of young people in Bangladesh, Islam et al. (2021) further expanded on these debates. Their research revealed that there is more evidence of being alone, feeling anxiety, depression, and lack of sleep that is connected with the excessive use of social networking sites. The research findings highlight the critical significance of digital well-being policies and clinical approaches designed explicitly for young populations at risk. Furthermore, Maksniemi et al. (2022) found that active social media use during adolescence altered emotional exhaustion and sleep patterns, underscoring the need for age-specific mental health interventions. Fiedler et al. (2023) underscore the interconnection between various social media networking sites and mental health challenges among young athletes. The results indicate that the unregulated use of social media networking sites causes an adverse impact on mental health and emotional well-being. Similarly, Zhou et al. (2023) demonstrated that social media use is positively associated with the emotional and mental health of married women. Zsila and Reyes (2023) provided a more comprehensive perspective, acknowledging both the benefits and drawbacks of social media use and advocating for an in-depth approach to digital satisfaction strategies. Coelho et al. (2025) also highlighted the negative influence of various social media apps on mental health and emphasized the need to regulate screen time to promote better mental health and well-being. Rizzo et al. (2025) demonstrated both the negative and positive impacts of social media on mental health and elaborated on the need to promote various strategies for using social media to achieve positive change. Harvey and Aikman (2025) took a sample of 292 students and described the interconnection between social media use and mental health. According to empirical outcomes, unregulated use of social media is strongly connected with different mental health problems.

To sum up, the prior literature demonstrates the intricate interconnection between the unregulated use of social media and mental health. The literature highlighted the various benefits of social media, including networking, connection-building, access to educational information, job opportunities, and entertainment. However, the addictive patterns of social media cause sleep disorders, anxiety, and low self-esteem among young adults. Therefore, it is necessary to explore this issue in detail to develop targeted interventions that improve mental health outcomes among young adults in developing economies.

3. Data Source Variables Construction and Methodology,

3.1 Data Source

This present research study is based on primary data gathered through a structured survey administered to a sample of 400 young individuals across various provinces of Pakistan. The sample was designed to ensure demographic diversity, capturing variations in age, education, region, and socioeconomic status. The survey collected comprehensive data on social media usage patterns, psychological well-being, and key demographic characteristics. The dependent variables include depressive symptoms, assessed using the Short Mood and Feelings Questionnaire (SMFQ), where a summed score was used to classify clinically relevant cases (cutoff $\geq$12). Sleep duration was measured through self-reported bedtime and wake-up times, while self-esteem was assessed using the Rosenberg scale, with low self-esteem defined as the top 20% of the distribution. Additionally, happiness with appearance was measured on a 7-point scale, with responses dichotomized for estimation. A detailed explanation of variables and descriptive statistics is given in Table 1.

Key independent variables were carefully constructed to capture demographic, socioeconomic, and behavioral characteristics, facilitating empirical analysis. These are divided into three groups (18–20, 21–23, and 24–26 as the base), while education levels, regional differences (urban vs. rural), and income quintiles were included as control variables. Social media engagement was quantified in terms of time spent per day (in minutes), preferred platforms (Facebook, Instagram, TikTok, and Twitter), and duration of use (less than one year, one year or more). Psychosocial factors such as peer pressure (binary: 1 if under social influence, 0 otherwise) and ability to leave social media (binary: 1 if they could quit easily, 0 otherwise) were also incorporated. These precisely defined variables enable rigorous statistical modeling to assess the nuanced connotation between social media engagement and mental health outcomes.

3.2 Methodology

In this section, we will elaborate on the methodology. We have used Ordinary Least Square (OLS) method and the binary logit model to assess the influence of social media use on various mental health indicators and symptoms. We have two kinds of dependent variables, continuous and dichotomous. We will apply the OLS method to elaborate on the impact of various socioeconomic and demographic factors on sleep duration, i.e., number of sleeping hours. We will have the following functional form, representing the OLS model for assessing sleep disorders.

$$SH_i = \gamma_0 + \sum_{k=1}^{j} \delta_j \, x_{ki} + u_i \quad (1)$$

In equation 1, SH_i is the number of sleeping hours, whereas X_{ki} is the various socioeconomic and demographic factors related to short sleeping durations, including social media use.

We will also examine the impact of social media use, along with other socioeconomic and demographic factors, on various mental health symptoms, including depression, anxiety, and happiness with appearance. In this case, the dependent variable is dichotomous; we will use the binary logit model (Greene, 2000; Wooldridge, 2016). Let us suppose that our binary outcome variable will take the following form:

$$y_i = \begin{cases} 1, & \text{if an individual has any of the mental health issues} \\ , & 0 \text{ otherwise} \end{cases}$$

The probability that $y_i = 1$ is as follows:

$$p(y_i - 1|x_i) = \frac{e^{\gamma_0 + \sum_{k=1}^{j} \gamma_k x_{ki}}}{1 + e^{\gamma_0 + \sum_{k=1}^{j} \gamma_k x_{ki}}} \quad (2)$$

$$p(y_i - 1|x_i) = \frac{e^{x_i' \gamma}}{1 + e^{x_i' \gamma}} \quad (3)$$

x_i is the vector of explanatory variables for respondent i, and γ represents the vector of coefficients. We have calculated the marginal effects for interpretations.

$$\frac{\partial p(y_i - 1|x_i)}{\partial x_{ki}} = \gamma_k \cdot f(x_i' \gamma) \quad (4)$$

Table 1: Variables used in our analysis and descriptive statistics

Variables		Description	Mean	SD
Dependent variable				
Depressive symptoms				
Depressive symptoms		Respondents will fill out the Mood and Feelings Questionnaire (SMFQ). The SMFQ includes the following 13 items about affective symptoms within the past two weeks: felt dissatisfied or unhappy, did not enjoy anything at all, was so exhausted that I just sat around doing nothing, was very restless, felt like I was no longer good, cried a lot, had trouble focusing or thinking, hated myself, felt lonely, believed no one loved me, believed I could never be as good as other children, and did everything wrong. The generated dichotomous variable will indicate clinically relevant symptoms (cut point ≥ 12). The variable takes 1 if the score is ≥ 12 and 0 otherwise.	0.338 0.662	0.321 0.321
	ow self-esteem	Self-satisfaction questions from the Rosenberg scale evaluated self-esteem. A dichotomous variable based on the cumulative scores of the questions indicates poor self-esteem, with scores of 7 or higher representing the upper 20% of the distribution. The binary variable takes the value of 1 if the score is 7 or greater, and 0 otherwise.	0.439 0.561	0.198 0.198
Happiness with appearance		Happiness with appearance is assessed using the following question: On a scale of 1 to 7, where 1 is completely delighted, and 7 is not at all contented, how do you feel about your appearance? A dichotomized variable (1 to 6 vs 7) is created for estimate. The binary variable takes the	0.581 0.419	0.265 0.265

	value of 1 if the score is 7 and 0 otherwise.		
No. of sleeping hours	Duration of sleep: What time do you often go to bed? What time of day do you typically wake up? Total number of sleeping hours. It is a continuous variable.	6.23	0.254
Independent variable(s)			
Age groups			
18-20	If a respondent is between 18 to 20 years of age = 1; otherwise, 0	0.421	0.223
21-23	If a respondent is between 21-23 years of age =1; otherwise, 0,24-26 years is the base category	0.223	0.183
Education			
Intermediate	If a respondent has an intermediate level of education = 1; otherwise, 0	0.311	0.113
Bachelors/BS	If a respondent has a Bachelor's level of education =1, otherwise 0, Masters/M. Phil is the base category	0.380	0.281
Region			
Urban	If a respondent is residing in an urban region =1; otherwise, 0, the Rural region is the base category	0.451	0.334
Provinces			
Punjab	If a respondent is from Punjab province =1; otherwise, 0	0.334	0.213
Sind	If a respondent is from Sindh province =1; otherwise, 0	0.257	0.261
KP	If a respondent is from KP province =1; otherwise, 0, Baluchistan is the base category	0.211	0.182
Gender			
Male	If a respondent is a male =1 otherwise 0, Female is the base category	0.511	0.211
Income quintiles			
Q2	If the respondent's income lies in Q2 =1; otherwise, 0	0.206	0.221
Q3	If the respondent's income lies in Q3 =1; otherwise, 0	0.211	0.171
Q4	If the respondent's income is between Q4 =1 otherwise 0	0.171	0.114
Q5	If the respondent`s income is between Q5 =1 otherwise 0, Q1 is the base category	0.201	0.116
Employment status			
Employed	If the respondent is employed =1; otherwise, 0, Not employed is the base category	0.241	0.238
No of Siblings			
Total no of siblings	Total number of siblings.	3.221	0.321
Time spent on social media			
Time in mints	Total time spent in minutes	240.887	0.532
Social media apps			
Facebook	If the respondent is a Facebook user =1; otherwise, 0	0.177	0.112
Instagram	If the respondent is an Instagram user =1; otherwise, 0	0.301	0.238
TikTok	If the respondent is TikTok user =1; otherwise, 0	0.321	0.281
Twitter	If the respondent is a Twitter user =1; otherwise, 0, others is the base category	0.110	0.172
Time duration to use social media apps			
One year	If the respondent uses social media apps for one year =1; otherwise, 0	0.191	0.199
More than one year	If the respondent uses social media apps for more than one year =1; otherwise, 0, less than one year is base	0.518	0.152
Purpose to use social media			
Entertainment	If the respondent uses social media for entertainment = 1; otherwise, 0	0.301	0.198
Connections	If the respondent uses social media, build connections =1; otherwise, 0	0.421	0.211
Others	If the respondent uses social media for any other purpose =1; otherwise, 0, information is the base category	0.101	0.121
No of followers			
No of followers	Total number of followers on social media apps	401.264	0.199
Peer pressure			
Yes	If the respondent is under peer pressure =1; otherwise, 0, No peer pressure is the base	0.559	0.271
Can leave social media			
Yes	If the respondent can leave social media =1; otherwise, 0, the respondent who cannot leave social media easily is the base category	0.141	0.189
N	400		

Table 1 presents the descriptive statistics for the variables included in this study, summarizing the central tendencies and distributions of both dependent and independent variables. The sample consists of 400

respondents, with a balanced representation across demographic and socioeconomic groups. The mean value for depressive symptoms (measured using the Short Mood and Feelings Questionnaire) is 0.338 (SD = 0.321), indicating that approximately 33.8% of respondents exhibit clinically relevant depressive symptoms (cutoff ≥12). Sleep duration averages 6.23 hours per night (SD = 0.254), while low self-esteem is reported by 43.9% of respondents, based on the top 20% of the Rosenberg scale distribution. Additionally, happiness with appearance, measured on a 7-point scale, shows that 58.1% of individuals report dissatisfaction with their physical appearance.

Regarding independent variables, the sample is evenly distributed across key demographic categories. Approximately 42.1% of respondents are aged 18–20, while 22.3% are between 21–23 years (the reference category being 24–26 years). Urban residents make up 45.1% of the sample, with provincial representation including Punjab (33.4%), Sindh (25.7%), and Khyber Pakhtunkhwa (21.1%). In terms of social media engagement, respondents spend an average of 240.89 minutes per day (SD = 0.532) on social media, with Instagram (30.1%) and TikTok (32.1%) being the most frequently used platforms. Notably, 55.9% of respondents report experiencing peer pressure related to social media use, while only 14.1% indicate that they could easily quit social media. These statistics offer critical insights into the behavioral patterns and psychological outcomes associated with digital engagement, providing a foundation for subsequent empirical analysis.

4. Empirical Results

The estimation results (Table 2) from the binary logit and OLS models provide critical insights into the interconnection between social media use and mental health outcomes, including depressive symptoms, sleep duration, self-esteem, and happiness with appearance. The findings align with existing literature while highlighting specific demographic and behavioral patterns within the Pakistani context.

4.1 Depressive symptoms

The results show that adolescents, especially those between the ages of 18 and 20 and 21 and 23, had experienced more depressed symptoms than the reference group. Instagram and TikTok are the two most prominent social media applications that are causing depressive symptoms among young adults. A total number of followers is also positively associated with depressive symptoms. In addition, if an adult is using social media for more than one year, then there are more chances that he or she is suffering from depressive symptoms. Those adults who can leave social media are less prone to depressive symptoms. Mainly, connections and networking on various social media sites cause depression among young adults. These results are in line with what Lin et al. (2016) found: that spending more time on social media is substantially linked to depressed symptoms, especially in young adults. Kelly et al. (2018) also discovered that teens, especially girls, who use social media more often are more likely to be depressed. This study agrees with Berryman et al. (2018) that not only the amount of time spent but also the type of involvement is important. TikTok and Instagram users are far more likely to experience depression, probably because they compare themselves to others more and see more idealized content (Reece & Danforth, 2017). Also, peer pressure is linked to depression, which supports prior research (Vannucci et al., 2017) that found a link between social anxiety and fear of missing out (FOMO) and using social media frequently.

4.2 Low self-esteem

According to the empirical outcomes, males are less likely to suffer from low self-esteem as compared to females. If an adult spends long hours on social media, they are more likely to suffer from low self-esteem. Additionally, respondents whose incomes fell within the bottom quintiles were more likely to report low self-esteem. Instagram and TikTok are more likely to cause low self-esteem among young adults. Moreover, entertainment and social connection-building are contributing to low self-esteem among young adults. The intention to leave social media is positively associated with high self-esteem. A total number of followers and peer [pressure also cause low self-esteem among young adults. This result aligns with Twenge and Campbell (2018), who suggest that individuals who spend a significant amount of time online, particularly those with lower income levels, tend to make false social comparisons that negatively impact their self-esteem. Being on social media, especially Instagram and TikTok, is strongly associated with low

self-esteem. This underscores what Reece and Danforth (2017) and Vannucci et al. (2017) discovered in the prior literature. These online platforms focus on pictures and videos, which makes people worry more about their physical appearance and makes them feel worse about themselves, especially younger generations.

4.3 Sleep disorders

Younger age groups (18–20 and 21–23) report significantly shorter sleep duration; furthermore, compared to those with the highest education, social media users with intermediate or bachelor levels of education are more prone to sleep disorders. Furthermore, time spent on social media is causing severe sleeping disorders among young adults. Social networking, in the form of building connections and increasing the number of followers, can cause sleep disorders among young adults. These findings align with those of Twenge and Campbell (2018), who established that excessive screen time is correlated with reduced sleep quality and disturbances. Additionally, our results indicate that spending more time on social media is significantly linked to shorter sleep duration. This supports prior research by Islam et al. (2021), which demonstrates that excessive digital engagement disrupts sleep cycles. Among social media platforms, TikTok and Instagram are particularly detrimental, with results consistent with those of Maksniemi et al. (2022), who found that late-night social media use increases emotional exhaustion and disrupts natural sleep patterns.

4.4 Happiness with appearance

The findings demonstrate that adolescents (ages 18–20 and 21–23) and individuals who use TikTok and Instagram are less happy with their appearance. Furthermore, the total number of followers and social media use for building connections can cause dissatisfaction with one's appearance. Peer pressure is also a stronger reason for dissatisfaction with appearance among young adults. This affirms Gao et al.'s (2020) findings that spending too much time on social media can lead to a worse perception of physical appearance. The considerable negative correlation between using social media for enjoyment and being happy with one's appearance aligns with O'Reilly's (2020) findings, which suggest that using social media for entertainment often leads to excessive interaction with unattainable beauty standards, potentially making people unhappy. The study also backs up what Fiedler et al. (2023) found: that teen athletes who used social media to promote themselves were more likely to worry about their body images.

The results of this study give strong evidence that using social media has a significant impact on mental health, especially on depressive symptoms, sleep duration, self-esteem, and happiness with their appearance. The empirical outcomes suggest a complex relationship between the unregulated use of social media and mental health outcomes. The results further demonstrate the significance of demographic factors, usage time, and the type of social media network. It is essential to explore the long-term impacts of unregulated social media use in future research. Special emphasis should be given to the causal relationship and the practical steps to decrease the adverse impacts of unregulated social media use on mental health outcomes. Health policy practitioners should consider target campaigns and digital literacy programs at the national level to support vulnerable young adults and encourage them to use social networking apps responsibly.

Table 2: Estimations – OLS and binary logit models

	Depressive symptoms Logit model	**Sleeping hours OLS model**	**Low self-esteem Logit model**	**Happiness with appearance Logit model**
Variables				
Age groups				
18-20	-0.127**	-0.106**	0.191**	-0.198**
21-23	-0.091***	-0.073***	0.008***	-0.177***
Education				
Intermediate	0.191**	-0.109**	0.165**	-0.209**
Bachelors/BS	0.101***	-0.061***	0.112***	0.118***
Region				
Urban	0.281**	-0.007**	-0.117**	0.101**
Provinces				
Punjab	0.168**	0.018**	0.212**	0.188**

Sind	0.131**	0.007**	-0.181**	0.151**
KP	0.101**	0.011**	-0.200**	0.101**
Gender				
Male	-0.101**	0.142**	-0.271**	0.009**
Income quintiles				
Q2	0.188**	-0.111**	0.280**	0.191
Q3	-0.127**	-0.109**	0.221**	0.123
Q4	-0.101**	-0.134**	-0.198**	0.007**
Q5	0.121**	-0.111**	-0.156**	0.107**
Employment status				
Employed	0.111**	0.009**	-0.007**	0.119**
No of Siblings				
No of siblings	0.210**	-0.101**	0.101	-0.008**
Time spent on social media				
Time in mints	0.271**	-0.222**	0.212**	-0.005**
Most used social media apps				
Facebook	0.091**	0.111**	-0.187**	0.217**
Instagram	0.201**	-0.156**	0.261**	-0.221**
TikTok	0.251**	-0.228**	0.333**	-0.271**
Twitter	0.181**	0.109**	-0.198**	0.010**
Time duration to use social media apps				
One year	0.101**	-0.211**	0.110**	-0.007**
More than one year	0.176**	-0.227**	-0.122**	-0.117**
Purpose to use social media				
Entertainment	0.012**	0.229**	0.010**	-0.191**
Connections	0.166**	-0.321**	0.191**	-0.128**
Others	0.110**	0.111**	-0.009**	0.122**
No of followers				
No of followers	0.123**	0.101**	-0.189**	0.108**
Peer pressure				
Yes	0.109**	-0.009**	0.001**	-0.006
Can leave social media				
Yes	-0.009**	0.118**	-0.228**	0.181**
N	400			

***,**,* illustrate the level of significance at 1%, 5% & 10%.

5. Conclusion and policy implication

With broader implications for developing economies, this study offers evidence on how young people in Pakistan are affected by addictive patterns of social media use. The results show that excessive use of social media, especially visually designed platforms like TikTok and Instagram, is considerably correlated with higher degrees of depression, lower self-esteem, shorter sleep duration, and unhappiness with personal appearance. Emphasizing the multidimensional character of digital participation, social media's influence is moderated by peer pressure, income levels, and the purpose for which social media platforms are used. These findings align with current research, highlighting the psychological risks associated with social media usage, particularly among young people in urban areas. Proactive steps are required to mitigate its adverse psychological impacts while also considering the benefits of social media for social and professional interaction. This is particularly important, given the rapid increase in social media use in developing economies, which can lead to severe mental stress among young people.

Policymakers in Pakistan and other developing nations should incorporate digital literacy and mental health education into school and university curricula to mitigate the detrimental consequences of social media use. To reduce social media comparison-driven anxiety, awareness efforts could emphasize regulated social media use practices, raise awareness about the dangers of excessive participation, and encourage balanced consumption of online information (Berryman et al., 2018). Policies should support controlled screen time, given the apparent link between social media use and mental health hazards, especially among teenagers and university students. Inspired by programs in developed nations, Pakistan may adopt time management tools, alerts for excessive usage, and parental control tools to support responsible digital participation. Collaborating with tech companies to integrate mental health markers and social platform content

moderation tools could help create a safer online environment.

Governments should increase readily available psychological support networks, including digital mental health interventions since mental health resources in Pakistan and similar developing nations remain underfunded and underused. AI-driven mental health chatbots and mobile-based treatment can give young people experiencing social media-induced anxiety, sadness, or self-esteem problems reasonably priced psychological support. Policy initiatives should focus on promoting safe use rather than banning digital engagement; this includes utilizing social media for educational, professional, and entrepreneurial purposes. Projects supporting content creation for skill development, awareness campaigns, and corporate expansion might help change consumption behaviors from passive to active and constructive involvement.

The study's results indicate that income levels, gender, and urban-rural variations significantly influence the impact of social media on mental health. Policymakers should provide equal access to digital well-being resources for women, low-income individuals, and those living in underprivileged areas. Policy practitioners also encourage private sector participation in reasonably priced mental health treatments, guaranteeing that psychological care is not limited to urban areas with high computer literacy.

A balanced approach to social media use and mental health well-being is vital as the digital transition speeds up across Pakistan and other developing nations. Policymakers, teachers, and technology firms must collaborate to develop interventions that mitigate addictive digital engagement patterns and associated psychological risks while maximizing their benefits. Future studies should investigate intervention approaches and long-term trends to enhance policies that support better social media usage habits and overall youth well-being.

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